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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/559,773      | 12/07/2005  | Yorinobu Kunimune    | 8008-1077           | 5941             |

466 7590 03/07/2007  
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| EXAMINER |
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CHAN, EMILY Y

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| ART UNIT | PAPER NUMBER |
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2829

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 03/07/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/559,773

Applicant(s)

KUNIMUNE, YORINOBU

Examiner

Emily Y. Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (Fig. 5) in view of Cao et al (U S Patent No.5,214,389).

With respect to the claims 1 and 2, the applicant's admitted prior art (Fig. 5) expressly discloses a scanning probe inspection apparatus for detecting anomalies in a passive element out of a plurality of passive elements connected together to form a chain pattern intermittently exposing portions of said chain pattern to a surface of a chip as claimed, comprising a bias voltage supplier, a probe (6) and a scan section.

The applicant's admitted prior art (Fig. 5) does not disclose two probes arranged at a spacing determined by a distance between said exposed portions of said pattern, the bias voltage supplier (5) for supplying the bias voltage between both ends of said chain pattern and a detector for detecting a potential difference between said two probes.

Cao et al ('389) discloses a method and system for semiconductor measurements (see Figs. 1-3) comprising two probes (17,18), bias voltage supply (35) and voltmeter (31) for detecting potential difference between said two probes (see Col.

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4, lines 22-23). Moreover, Cao et al ('389) disclose that their two probes (17,18) are spaced from each other (see Figs. 1-3). Even though Cao et al ('389) do not specify that the size of the distance between the two probes (17,18), it is well known to have the distance between the two probes in any size as desired (see MPEP 2144.04 IV 'CHANGE IN SIZE, SHAPE') Even though Cao et al ('389) do not specify to cause the two probes (17,18) to scan over a surface of the wafer, Cao et al ('389)'s two probes (17,18) still meet the claimed two probes because the manner of operating the probes does not differentiate from the prior art (see MPEP 2114 [R1] "MANNER OF OPERATING THE DEVICE DOES NOT DIFFERENTIATE APPARATUS CLAIM FROM THE PRIOR ART").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to be motivated to incorporate the teaching of Cao et al ('389) into the applicants' admitted prior art to produce a scanning probe inspection apparatus as claimed because Cao et al ('389) discloses that their probes can be multi-dimensionally positioned with high -invention , that minimizes penetration depth into a sample surface (see Col. 2, lines 16-18).

With respect to claims 3 and 8, the applicant's admitted prior art (Fig. 5) discloses that passive elements are through-holes (2) and wherein said through holes (2) are coupled to one another such that one upper interconnect line (4) is coupled to an upper end of one through-hole out of adjacent through-holes and one lower interconnect line (3) is coupled to a lower end of said one through-hole out of adjacent through-holes.

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3. Claims 4, 6-7, 9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Cao et al ('389) as applied to claims 1 -3 above, and further in view of Arnold et al US Patent No. 2003/0062915.

The applicant's admitted prior art in view of Cao et al ('389) do not specific that the probe is shaped with different portions and is coated with a conductive material.

Arnold et al ('915) disclose a probe (see Fig. 3) comprising a thin plate shaped base portion (31), a lever (32) extending from the base portion and a needle portion. Arnold et al ('915) also disclose that the probe is formed by coating with a conductive material (see page 2, paragraph (0023) lines 4-6)). Furthermore, Arnold et al ('915) disclose that the conductive material can be diamonds (see page 1, paragraph (0012) line 10 "such as diamonds").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the teaching of Arnold et al ('915) into the applicants' admitted prior art in view of Cao et al ('389)'s apparatus for the expected benefit of allowing fabrication of very small, highly reliable contact devices capable of repeated use as disclosed by Arnold et al ('915) (see page 2, paragraph (0023) lines 6-7).

#### ***Allowable Subject Matter***

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claim 5 is allowed.

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The following is a statement of reasons for the indication of allowable subject matter:

Claims 10 and 5 are indicated allowable because the prior art in the record do not teach that a probe needle is so formed as to be inclined from said distal end of said lever in a direction that said distal end points.

***Response to Arguments***

Applicant's arguments with respect to claims 1, 3-4 and 6-12 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha T Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

HA TRAN NGUYEN  
SUPERVISORY PATENT EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EC  
3/5/07



HA TRAN NGUYEN  
SUPERVISORY PATENT EXAMINER